

IN THE SPECIFICATION

Please replace the paragraph at page 28, line 23, to page 29, line 15, with the following rewritten paragraph:

When vectorization by major item is performed, a program vector $PP = (Tm, Gm, Hm, Sm, Pm, Am, Km)$ is generated with title, genre, time slot, broadcasting station, starring, scriptwriter/author/producer, and contents set as seven major items as shown in FIG. 5, for example. Then, contents of the items are vectorized as Title (Title) $Tm = \{\text{title 1, title 2, ...}\}$, Genre (Genre) $Gm = \{\text{drama, variety, sports, movie, music, child-oriented/education, culture/document, news/report, other}\}$, Time Slot (Hour) $Hm = \{\text{morning, noon, evening, prime time, midnight}\}$, Broadcasting Station (TV Station) $Sm = \{\text{NNK Sogo, NNK Kyouiku, Asia Television, TTS, Buji, Telenichi, Toto, NNK Eisei Daiichi, NNK Eisei Daini, WOWO}\}$, Starring (Person) $Pm = \{\text{person A, person B, ...}\}$, Scriptwriter/author/producer and the like (Author) $Am = \{\text{person a, person b, ...}\}$, and Contents (Keyword) $Km = \{\text{kw1, kw2, ...}\}$.

Please replace the paragraph at page 33, lines 21-24, with the following rewritten paragraph:

In step S16, the program vector generating unit [[23]] 33 associates the effect vector EfPP extracted in step S15 with the program vector PP generated in step S14. Then the process is ended.

Please replace the paragraph at page 38, lines 14-18, with the following rewritten paragraph:

In step S55, the program vector generating unit [[33]] 23 fixes and sets the program vector PP of the serial drama to the program vector PP of the first broadcast, and sets the

generated cluster code to the program vector PP in association with each other. Then the process is ended.

Please replace the paragraph at page 38, line 24, to page 39, line 2, with the following rewritten paragraph:

In step S57, the program vector generating unit [[33]] 23 associates the generated cluster code with the program vector PP. Then the process is ended.

Please replace the paragraph at page 89, line 23, to page 90, line 11, with the following rewritten paragraph:

In Equation (8), the cosine distances by the major items between the program vector $PP = (p_t, p_g, p_p, p_a, p_k)$ and the negative history vector $UP\ MUP = (m_t, m_g, m_p, m_a, m_k)$ are $(\cos\theta m_t, \cos\theta m_g, \cos\theta m_p, \cos\theta m_a, \cos\theta m_k)$; the program side effect vector $EfPP = (epd_t, epd_g, epd_p, epd_a, epd_k)$; and the user side counter effect vector $EfMUP = (emd_t, emd_g, emd_p, emd_a, emd_k)$. While both the program side effect vector EfPP and the user side counter effect vector EfMUP are used in Equation (8), when a setting is made such that one of the program side effect vector EfPP and the user side counter effect vector EfMUP is not used, a numerical value “1” is substituted into the unused vector for the calculation.

Please replace the paragraph at page 98, last line, to page 99, line 6, with the following rewritten paragraph:

For example, in the major item Genre $Gm = \{\text{drama, variety, sports, movie, music, child-oriented/education, culture/document, news/report, other}\}$, when the counted number of all programs in one week is (8, 12, 3, 7, 6, 4, 2, 8, 10) while the number of programs viewed by the user is (4, 0, 1, 2, 3, 4, 5, 5, 1, 2, 2), the normalized vector D is as follows.

Please replace the paragraph at page 108, lines 3-11, with the following rewritten paragraph:

For example, in the major item Time Slot Tm Hm = {morning, noon, evening, prime time, midnight} of program vectors PP corresponding to the genre “drama” in the major item Genre Gm = {drama, variety, sports, movie, music, child-oriented/education, culture/document, news/report, other}, when the counted number of all programs in one week is (10, 35, 7, 53, 17) while the number of programs viewed by the user is (5, 0, 0, 8, 4), the normalized vector D' is as follows.

Please replace the paragraph at page 108, lines 12-13, with the following rewritten paragraph:

$$D' = (5/10, 0/35, 0/7, 8/53, 4/17) = (0.5, 0, 0, 0.28, 0.15, 0.24)$$

Please replace the paragraph at page 108, line 23, to page 109, line 9, with the following rewritten paragraph:

In order to generate the effect vector, a standard value is set using one item in the major item Time Slot Tm Hm = {morning, noon, evening, prime time, midnight}. For example, the standard value may be set to 0.2 assuming that an average user views about 20 percent of dramas in the time slot: “prime time” for one week. Since the effect vector of a major item is calculated as relative values, the set value may be any value of 0 to 1. The user side effect vector is relative values between the normalized vector D' calculated in step S175 and the set value.

Please replace the paragraph at page 109, lines 10-13, with the following rewritten paragraph:

Hence, the effect vector E' , which vector indicates genres in which the user has interest, of the major item Genre Gm-Time Slot Tm is calculated as

$$E' = (0.3, -0.2, -0.2, -0.05, 0.04)$$

Please replace the paragraph at page 113, lines 15-23, with the following rewritten paragraph:

In step S196 S178, the user information registering unit 63 determines whether or not the process is completed in all genres. When the user information registering unit 63 determines in step S178 that the process is not completed in all the genres, the process returns to step S191 to repeat the process from step S191 on down. When the user information registering unit 63 determines in step S196 that the process is completed in all the genres, the process is ended.

Please replace the paragraph at page 144, lines 2-11, with the following rewritten paragraph:

The channel setting unit 123 obtains information on a recommended program corresponding to a present time from the recommended program list [[98]] 128 in step S273. In step S274, the channel setting unit 123 generates channel setting information on the basis of the information on the recommended program, and then outputs the channel setting information to the television receiving device 4. The television receiving device 4 receives a broadcast signal of a specified channel on the basis of the control signal.

Please replace the paragraph at page 149, line 22, to page 150, line 5, with the following rewritten paragraph:

In step S293, the recording setting unit 143 extracts information on a recommended program corresponding to a present time from the recommended program list 109 149, thereby obtains information necessary to perform a recording process, such as a broadcast start time and a broadcast end time, a broadcasting channel and the like, and then supplies the information to the recording control unit 145.

Please replace the paragraph at page 152, lines 8-16, with the following rewritten paragraph:

Specifically, the distribution server 171 includes the data obtaining unit 21 and the data transmitting unit 25 of the distribution server 5 described with reference to FIG. 2. The distribution server 171 obtains streaming data or EPG data including metadata from the streaming data database 6 or the metadata database 7. The distribution server 171 transmits the streaming data or the EPG data to the EPG receiving device [[8]] 9 or the television receiving device 4 via the network 8.

Please replace the paragraph at page 152, line 17, to page 153, line 8, with the following rewritten paragraph:

The program recommendation processing device 191 has the same configuration as the program recommendation processing device 10 described with reference to FIG. 13 except that the program recommendation processing device 191 is newly provided with a metadata ~~obtaining extracting~~ unit 22 and a program vector generating unit 23 that are similar to those provided in the distribution server 5 of FIG. 2. In addition to the processes performed by the program recommendation processing device 10, the program

recommendation processing device 191 performs the first program vector generating process described with reference to FIG. 3 and the second program vector generating process described with reference to FIG. 6 as well as the first grouping process described with reference to FIG. 7 and the grouping process described with reference to FIG. 8.